

AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled. The listing of the claims will replace all prior versions, and listing, of claims in the application.

Listing of claims:

- 1.-39. (Cancelled)
40. (Currently Amended) A three-dimensional printing system to print a three-dimensional object, comprising:
- one or more printing heads;
 - two or more cartridge apparatuses that provide cartridges to
~~provide~~ building materials to said one or more printing heads to
print said three-dimensional object;
 - two or more sensors ~~to determine~~ that determine the status of
building materials in said cartridge apparatuses ~~cartridges~~; and
 - a controller ~~to receive~~ that receives data from said sensors[[,]]
and ~~to control~~ controls switching of building material supply from
one cartridge to another.
41. (Currently Amended) The system of claim 40, wherein each of said sensors is associated with a respective ~~respective~~ one of said ~~cartridges~~ cartridge apparatuses.
42. (Previously Presented) The system of claim 40, wherein the sensors are mass sensors .
43. (Currently Amended) The system of claim 40, wherein said two or more cartridge apparatuses ~~cartridges~~ are arranged as part of a cartridge array.
44. (Currently Amended) The system of claim 40, wherein said cartridge apparatuses ~~cartridges~~ comprise a cartridge casing, said casing including a memory device reader.

45. (Currently Amended) The system of claim 40, wherein at least one of said cartridge apparatuses ~~cartridges~~ is coupled to a memory device to record data relating to building material in ~~[[the]]~~ a cartridge.
46. (Currently Amended) The system of claim 40, wherein at least one of said cartridge apparatuses ~~cartridges~~ comprises a bag to store said building material.
47. (Currently Amended) The system of claim 40, further comprising a valve matrix coupled to said two or more cartridge apparatuses ~~cartridges~~, to control supply of building materials from said cartridge apparatuses ~~cartridges~~ to said printing heads.
48. (Previously Presented) The system of claim 47, wherein said valve matrix includes an outgoing tube for each type of building material required by said printing heads.
49. (Currently Amended) The system of claim 47, wherein upon lowering of the level of said building material in any one of said two or more cartridge apparatuses ~~cartridges~~ to a pre-determined amount, said valve matrix is adapted to automatically switch material sources.
50. (Currently Amended) The system of claim 40, wherein said controller is to calculate material parameters from building materials in one or more of said cartridge apparatuses ~~cartridges~~ , based on data of building material in said cartridge apparatuses ~~cartridges~~ .
51. (Previously Presented) The system of claim 40, further comprising a source of electromagnetic radiation.
52. (Currently Amended) The system of claim 51, wherein the source of electromagnetic radiation is disposed within one of said cartridge apparatuses ~~cartridges~~ .
53. (Currently Amended) The system of claim 40, further comprising a curing unit adapted to cure remnant building material within one of said cartridge apparatuses ~~cartridges~~ using electromagnetic radiation.

54. (Previously Presented) The system of claim 46, wherein said bag is inflatable and to enable curing of remnant building material.
55. (Canceled) A printing method, comprising:
measuring data on the status of building material for three-dimensional printing in two or more cartridges;
determining parameters of said building material; and
controlling a supply of said building material from any of said cartridges to one or more printing heads according to said parameters.
56. (Canceled) The method of claim 55, wherein said controlling of material supply is enabled by controlling a valve matrix.
57. (Canceled) The method of claim 55, further comprising sending an alert to an operator.
58. (Canceled) The method of claim 55, wherein measuring material status includes measuring the mass of said building material in said cartridges.
59. (Canceled) The method of claim 55, comprising computing an amount of building material required to print an object.
60. (Canceled) The method of claim 55, comprising computing an amount of time remaining before one of said cartridges requires replacement.
61. (Canceled) The method of claim 55, comprising alerting an operator if one of said cartridges requires replacement.
62. (Canceled) The method of claim 55, comprising automatically switching supply sources for said building material if one of said cartridges requires replacement.
63. (Canceled) The method of claim 55 comprising:
generating electromagnetic radiation;

APPLICANT(S): MENCHIK, Guy et al.
SERIAL NO.: 10/534,615
FILED: December 14, 2005
Page 5

channeling said electromagnetic radiation into one of said cartridges to cure remnant building material contained within said cartridge.

64. (Canceled) The method of claim 63, comprising inflating a cartridge bag to enable said electromagnetic radiation to reach substantially all parts of said cartridge bag.